

CLAIMS

1. A compressor comprising:
  - a housing defining a fluid inlet passage and a fluid outlet passage;
  - 5 a rotary impeller located within the housing between the fluid inlet passage and the fluid outlet passage;
  - a plurality of inlet guide vanes in the inlet passage for imparting a rotary component of movement to fluid passing through the fluid inlet passage for increasing efficiency at low mass flow rates;
- 10 characterised in that:
  - a sleeve is mounted axially in the fluid inlet passage and divides the fluid inlet passage into a radially outer portion and a radially inner portion;
  - the inlet guide vanes are located in the radially outer portion of the fluid inlet passage; and
- 15 a fluid flow cut-off valve is provided in the radially inner portion of the fluid inlet passage for selectively preventing fluid flow therethrough and diverting all of the fluid through the radially outer portion of the fluid inlet passage at low mass flow rates.
- 20 2. A compressor according to claim 1, wherein the inlet guide vanes have a fixed vane angle.
3. A compressor according to claim 2, wherein the inlet guide vanes have a vane angle of up to 70°.
- 25 4. A compressor according to claim 2, wherein the fluid flow cut-off valve is located in the sleeve by means of a pivotal mounting.
5. A compressor according to claim 4, wherein the fluid flow cut-off valve is located at an upstream portion of the sleeve.

6. A compressor according to claim 2, wherein the inlet guide vanes are fixed to the outer surface of the sleeve.
7. A compressor according to claim 6, wherein the sleeve and the inlet guide vanes are maintained in position by frictional contact with the housing and the pivotal mounting for the fluid flow cut off valve.  
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8. A compressor according to claim 2, wherein the sleeve has a greater axial length than that of the inlet guide vanes.  
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9. A compressor according to claim 2, wherein the inlet guide vanes are located at a downstream portion of the sleeve.  
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10. A compressor according to claim 1, wherein the diameter of the fluid inlet passage adjacent the impeller is the same as the diameter of the sleeve.